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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,635	07/02/2001	Alain Lebrun	33774	5824

116 7590 05/28/2003

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EXAMINER
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PALABRICA, RICARDO J

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/869,635

Applicant(s)

LEBRUN ET AL.

Examiner

Rick Palabrica

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 9-13, 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9, 10, 13, 15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Applicant's amendment in Paper No.10, which amends claims 9, 10, 13, 15 and 16, and cancels claim 14, is acknowledged. This amendment is in response to a 10/2/2002 Office Action.

2. Applicant traversed the rejection of claim 9 based on Phillips et al. ('117). His arguments have been fully considered but they are not persuasive.

Applicant alleges that Phillips et al. ('117) does not teach the element, "means of placing, (6,9), the casing in a given position on at least one of the cells, (5), adjoining a cell containing nuclear fuel, (26)." The examiner disagrees because this element reads on the boom 24 (see Fig. 6). There is nothing in the claim language that precludes the boom and this element to be the same component. Alternatively, said element reads on the human operator of said boom. Note that attaching the casing to the boom does not, by itself, place the casing in a given position on one of the cells. An operator must manipulate the boom to achieve the said positioning.

Note also that the use of reference characters is considered as having no effect on the scope of the claims. See MPEP 608.01(m).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Phillips et al. (U.S. 4,510,117), hereinafter referred to as Phillips et al. ('117). Phillips et al. ('117) disclose an apparatus for in situ determination of burnup, cooling time and fissile content of an irradiated nuclear fuel assembly in a fuel storage pond.

Applicant's claim language reads on Figs. 1-6 of Phillips et al. as follows: a) "structure subjacent to storage cells immersed in water filled bay" reads on structure 10 (see Figs. 1 and 6); b) "first detector" reads on detector 34 (see Fig. 4); c) "second detector" reads on detector 32 (see Fig. 4); d) "waterproof casing" reads on either structure 12 or structure 14 (see Fig. 2 or Fig. 5); e) "means of attaching the casing" reads on structure 22 (see Fig. 3 or Fig. 5); f) "boom" reads on structure 24 (see Fig. 6), said structure is used to lower the apparatus into a storage pond (see column 5, lines 36+). See section 2 above regarding the "means for placing the casing on at least one of the cells adjoining a cell containing nuclear fuel."

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9, 10, 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over George et al. (U.S. 6,035,010) in view of the combination of Phillips et al. ('117) and Phillips et al. (Analytical Chemistry, Vol. 47, No. 1, January 1975). George et al. disclose the applicant's claims except for the boom and two-collimator configuration.

George et al. disclose a method and an apparatus for measuring the gamma spectrum and neutron emitted by spent fuel element (see Figs. 1-3). The invention also monitors the burnup profile of a fuel assembly (see column 3, lines 45+). They disclose that the apparatus can be used in a dry storage environment, as well as in a storage pool, if an appropriate water tight casing is used (see column 3, lines 44+). Their apparatus comprises a gamma detector 2 and neutron detectors 3 inside a shielded structure. Note that the detectors are disposed transverse to the fuel rod being scanned (see Fig. 2).

Phillips et al. ('117) teach the use of a boom attached to a waterproof casing for a nuclear fuel assay apparatus (see section 3 above).

Phillips et al. (1975) disclose a non-destructive method for quantitative determination of fission products in irradiated fuel rods. They teach the use of multiple lead collimators to define precisely the gamma-ray beam striking the gamma detector surface (see page 71, 4<sup>th</sup> paragraph).

As to the conoidal shape of the rear collimator in claim 15 and the slidability of the shield for the second detector in claim 16, these are matters of optimization within prior art conditions or through routine experimentation (see MPEP 2144.05 II.A). Note,

however, that a change in shape, by itself, does not patentably distinguish the claimed invention over prior art (see MPEP 2144.04.IV.B).

Application of the two-collimator teaching in Phillips et al. (1975) to George et al. would meet the shielding limitations in the claims.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus, as disclosed by George et al., by the teaching of the combination of Phillips et al. ('117) and Phillips et al. (1975), in order to have a device for discriminating nuclear fuel having a means for attaching the water-proof casing to a boom, the means for positioning being the bottom part of the casing, having a neutron detector and a gamma detector behind two collimators, in order to obtain the advantages thereof (e.g., better focusing of gamma rays), because such modifications are no more than the use of well-known expedients within the nuclear art.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

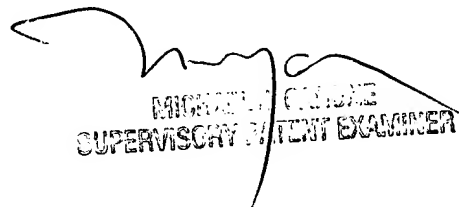
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 703-306-5756. The examiner can normally be reached on 7:00-4:30, Mon-Fri; 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 703-306-4198. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

RJP  
May 21, 2003

  
MICHAEL CARONE  
SUPERVISORY PATENT EXAMINER